Docket No.: 4607/0729-US0
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:
Bernard Parsons

Application No.: 10/539,910

Filed: June 15, 2005

For: SECURITY SYSTEM AND METHOD

Confirmation No.: 6548

Art Unit: 2434

Examiner: Teshome Hailu

PRE-APPEAL BRIEF REQUEST FOR REVIEW

MS AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Concurrent with the filing of a Notice of Appeal, Applicants hereby request a pre-appeal brief review of the rejection mailed January 29, 2010 in the above-identified application. No amendments are being filed with this request.

Claims 23-24, 26-28, 30-41 and 43 are pending in this application, with claims 23-24, 26-28, 30-41 having been twice rejected. An appeal is proper in accordance with 37 C.F.R. § 41.31(a), which provides that "[e]very applicant, any of whose claims has been twice rejected, may appeal from the decision of the examiner to the Board."

The sole question on appeal is whether the rejection of all claims as being obvious over Gaskins et al. (U.S. Patent 5,606,315) in view of Hale (U.S. Patent 5,355,414) and further in view of Gardner (U.S. Patent 7,272,832) is correct. *See* Final Office Action ("FOA"), p.4, item 12.

A. Gaskins Lacks an Interact Means As Claimed

The proposed combination starts with Gaskins and Hale. According to the Office, Gaskins discloses the claimed interact means. FOA, p. 4, point 12; *citing* Gaskins, 3:32-35, discussing ROM 16 and EEPROM 20.[1]

The EEPROM of Gaskins is dedicated to the system for securing protected data, is not a standard component of a portable computing device and furthermore is not available for use by the operating system. The ROM is a read-only memory and cannot accept write operations as called for in the pending claims. The EEPROM is an electronically erasable programmable read only memory and similarly cannot accommodate write operations. Moreover, the status of the EEPROM in Gaskins is not changed in any way. Even if the Office were to contend that the EEPROM was available for use by the operating system, at no point does it subsequently change to being unavailable, nor could it ever comprise a memory management unit that is responsible for the EEPROM. As such, Gaskins never acquires a portion of memory nor does it remove such portion from being available for use by the operating system. Accordingly, Applicants respectfully submit that Gaskins does not teach the claimed interact means, and the obviousness rejection fails for this first reason.

B. Hale Lacks the Claimed Filter Driver For Intercepting R/W Operations to the Memory of a Portalbe Computing Device

Applicants acknowledge that Hale relates to the field of security systems. FOA, p. 5, 2nd full ¶. Applicants also acknowledge that Hale teaches intercepting read/write operations to a host system. *Id.* The reason for this, however, is because Hale uses his own memory and never ***appropriates*** a portion of memory of the host system. Hale has his "keyboard controller" provided as a physically separate device from that of the host; quite literally, the keyboard controller is part of a peripheral device that is merely tethered to the host computer. In particular, the security system of Hale executes within this discrete keyboard controller component, and is therefore independent of the host operating system. Hale, 15:13-16. In short, there is no memory available for use by the operating system that is ever acquired by

[1] The RAM ***is*** available to the system and contains the program steps used by the microprocessor. Gaskins, col. 3, lns 40-43. However, no portion of the RAM is ever taught as being acquired and removed from use by the operating system, and the Office has not made that contention. Rather , the RAM is ***always available.***

the Hale device. ("[N]o operating routine needs to be installed ... because the security system instructions are always stored in the keyboard controller memory." Hale, 15:19-24.) In quoting Hale, the Office cites to 7:30-35:

> The security system instructions to carry out the operations illustrated in the flowcharts are stored in the memory 220 and executed by the keyboard controller 120, independent of the host operating system.

However, there is a key fact that cannot be overlooked when considering the fairness of combining Hale into Gaskins, as proposed. In particular, the memory 220 used by Hale is not part of the host system, and so there is never an ***acquisition*** of a portion of memory from the host system, nor is there any suggestion of doing so. In fact, the opposite is true, because Hale provides a separate controller with its own circuitry and memory so that the memory of the host system remains intact. As such, no portion of memory is ever ***removed*** from being available for use by the operating system either.

Accordingly, there is no reading of Gaskins and Hale absent hindsight in view of this application that could lead one of skill in the art to the invention as claimed. The obvisouness rejection is traversed for this independent reason.

C. Gardner Does Not Teach Or Suggest Acquisition / Removal Of A Memory Portion

The Office cites Gardner as teaching the use of ***memory management services*** of SPK 36 (a secure platform kernel) in order to allow a user application to create ***secure memory partitions to protect information in a memory from all other applications and operating systems running on the system, even including the operating system under which it is running.*** FOA, p. 3, point 9; Gardner col. 21, lns 20-26. However, the invention as claimed is not directed to secure partitions as such, but to acquiring a memory portion that is available for use by an operating system and making that portion unavailable to the operating system.

In Gardner, memory partitions are claimed upon installation of the SPA and SPK, and there is no teaching or suggestion that such partitions were previously available to the operating system. Indeed, the operating system operates ***on top of*** the secure partition, and each end user application operates ***on top of*** the operating system image. Gardner, Abstract;

see also stack diagram in Fig. 3. As such, there is no memory taken away from the operating system. Rather, Gardner uses the memory management services of a Secure Platform Kernel (SPK) 36 to create secure partitions in memory. Gardner, 21:21-26. The SPK 36 runs as a privileged task that is part of the secure platform architecture (SPA) that runs on top of processor hardware having at least one processor that has four execution privilege levels. Gardner, 3:14-39. The structure of physical memory 74 in Gardner is fixed by necessity due to installation of the SPA and SPK as shown in Figure 3. Gardner does not disclose taking away memory previously available to an operating system. As such, the memory in Gardner was never available to the operating system and the secure partition of Gardner is inaccessible to the operating system or any other task operating on top of the secure platform. Gardner, 2:37-39.

Gardner is unequivocal in teaching "there is a need for a fundamental change in operating system architecture" in order to achieve the security scheme he has in mind. He achieves that by a complex 4-tier privilege level scheme. Gardner explains in his summary (2:34-39) that:

> The secure platform is configured to provide a secure partition within the memory for storing secret data associated with and accessible by the end user application. The secure partition is inaccessible to the operating system and other tasks operating on top of the secure platform.

In contrast, the claimed interact means proactively interacts with the memory management unit to acquire a portion of memory that is "available for use" or "accessible by the operating system" (see preamble) and remove it from being available for use by the operating system. As explained in the subject application, this is implicitly a manipulation of the MMU tables so as to take addresses away and thereby deprive any access to such addresses by the operating system. Thus, reliance upon Gardner does not fill the deficiencies of Gaskins and Hale, and, therefore, the claims define patentably over the proposed combination of references for this reason as well.

D. The Proposed Combination Is Different Than The Claimed Invention

Since neither Gaskins, Hale, nor Gardner teaches or hints at acquiring a portion of memory that is at one time available to the operating system and removing that portion from

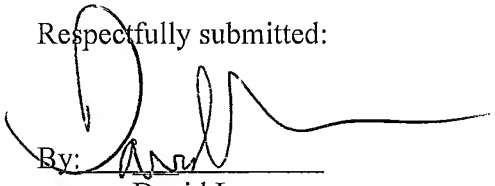
being available to the operating system, the combination cannot fairly suggest that feature recited in independent claims 23, 34 and 43. This distinction warrants reversal of the outstanding rejection against the claims now pending.

The proposed modification of Gaskins in view of Hale takes the stand-alone keyboard controller memory and EEPROM of Hale and provides that security to Gaskins. However, these features of Hale operate independent of the host operating system to which the Hale device connects. Therefore, this combination does not disclose or suggest acquiring device memory of the host such that it is no longer available to the operating system, nor does it disclose or suggest controlling access and processing read/write operations to that same acquired device memory independently of the operating system.

The further proposed modification in view of Gardner is: (a) beyond a reasonable modification by a person of ordinary skill in the art, or, in the alternative, (b) not combinable with the other references so as to result in the claimed invention (i.e, would be different or inoperative, as proposed). The complex architecture of Gardner that is required for his secure platform architecture ("SPA") and secure platform kernel ("SPK") results in a fixed physical memory structure. There is no ability to take away memory that was previously available to an operating system, as called for in each of the pending claims. Moreover, the independent keyboard controller system of Hale is not understood as having any meaningful coordination with either Gaskins or Gardner, and no such coordination has been proposed by the Office so as to explain how the resulting system could possibly operate to render obvious the particular interrelationships recited in the independent claims.

Dated: July 29, 2010

Respectfully submitted:



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